

Historic, archived document

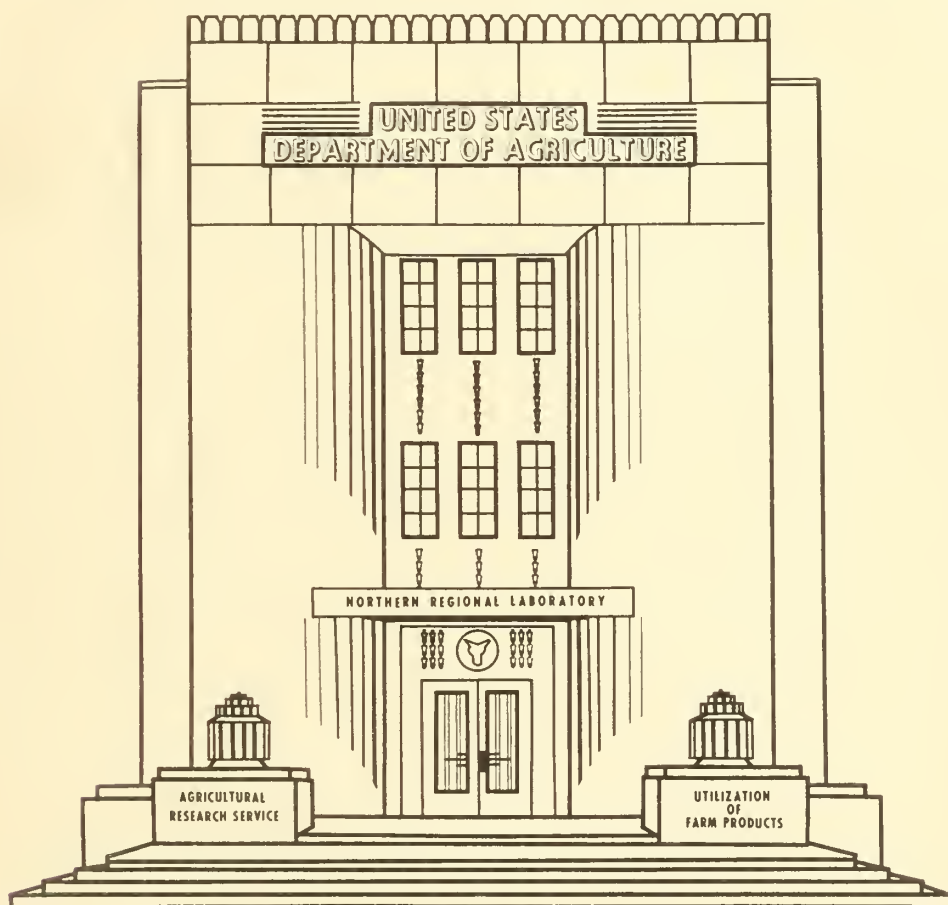
Do not assume content reflects current scientific knowledge, policies, or practices.



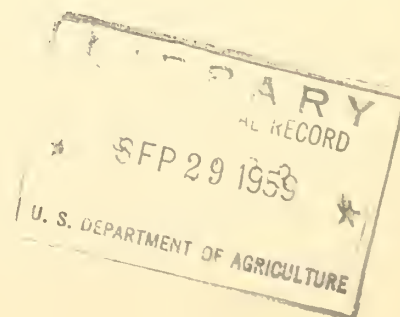
A381
R3IAC
crp. 2

ARS-71-7 (Rev.)
August 1959

BIBLIOGRAPHY ON ALCOHOL PRODUCTION
and
USE OF AGRICULTURAL CROPS AS A SOURCE OF MOTOR FUELS

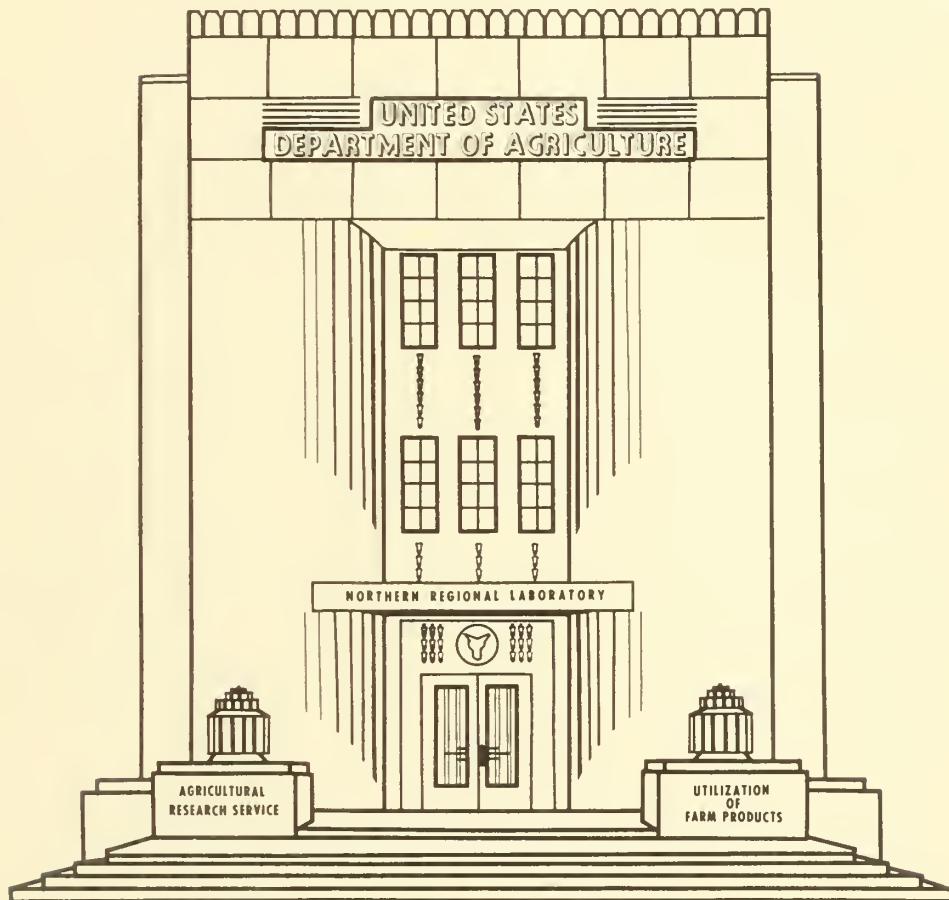


Agricultural Research Service
UNITED STATES DEPARTMENT OF AGRICULTURE



This bibliography represents work conducted at the Northern Utilization Research and Development Division, Peoria, Illinois on alcohol production and use of agricultural crops as a source of motor fuels between 1940 and 1955.

BIBLIOGRAPHY ON ALCOHOL PRODUCTION
and
USE OF AGRICULTURAL CROPS AS A SOURCE OF MOTOR FUELS



Agricultural Research Service
UNITED STATES DEPARTMENT OF AGRICULTURE

This bibliography represents work conducted at the Northern Utilization Research and Development Division, Peoria, Illinois on alcohol production and use of agricultural crops as a source of motor fuels between 1940 and 1955.

TABLE OF CONTENTS

	Page
Alcohol-Gasoline Blends	2
General Review Articles Dealing with Production, Use and Economics of Alcohol.	3
Production of Alcohol	3
Physical Properties of Alcohol in Connection with Its Use as a Motor Fuel	4
Producer Gas from Agricultural Residues	4
Alcohol-Water Injection	5
Use of Wheat in War Alcohol Program	6

Alcohol-Gasoline Blends

1. Mollier Diagrams for Theoretical Alcohol-Air and Octane-Water-Air Mixtures. R. Wiebe, J. F. Schultz, and J. C. Porter. Indus. and Engin. Chem. 34(5): 575-580. May 1942.
2. Iron Pentacarbonyl as Antiknock Agent in Alcohol Motor Fuels. I. Pitesky and R. Wiebe. Indus. and Engin. Chem. 37(6): 577-579. June 1945.
3. Solubility of Water in Alcohol-Hydrocarbon Mixtures. C. B. Kretschmer and R. Wiebe. Indus. and Engin. Chem. 37(11): 1130-1132. November 1945.
4. Octane Ratings of Agricultural Motor Fuels. C. F. Elder, F. R. Truby, and R. Wiebe. Indus. and Engin. Chem. 39(4): 508-510. April 1947.
5. The Technical Literature of Agricultural Motor Fuels. R. Wiebe and J. Nowakowska. U. S. Dept. Agr. Bibliog. Bul. 10. February 1949.
6. Test Results with Dual-Fuel Carburetion at High Compression. J. C. Porter, A. P. McCloud, and R. Wiebe. Automotive Indus. 106(2): 46-50, 86. January 15, 1952.
7. Effect of Alcohols on Hydrocarbon Autoxidation. C. F. Frye, C. B. Kretschmer, and R. Wiebe. Indus. and Engin. Chem. 46(7): 1517-1520. July 1954.
8. Stability of Alcohol-Gasoline Blends (Estabilidad de las Mezclas Alcohol-Gasolina). J. Nowakowska, C. B. Kretschmer, and R. Wiebe. Bol. de la Asoc. Nac. de Ingen. Agron. 3(70): 3-7. February 1956. (English translation available)
9. Carburetor De-Icing with Alcohols (L'Alcool et le Dégivrage des Carburateurs). C. B. Kretschmer, M. M. Gilbert, W. B. Roth, and R. Wiebe. Indus. Agr. et Aliment. 73(5): 343-346. May 1956. (English translation available)
10. Road and Laboratory Tests of Vapor Lock in Alcohol Motor Fuels. C. B. Kretschmer, C. W. Blessin, M. M. Gilbert, W. B. Roth, and R. Wiebe. Philippine Agr. Engin. Jour. 6(1): 7-12. 1957.
11. Exhaust Gas Composition and Engine Wear. C. W. Blessin, C. F. Elder, W. B. Roth, and R. Wiebe. Philippine Agr. Engin. Jour. 6(2): 49-56. 1957.
12. High Compression Tractor Engines with Alcohol-Gasoline Blends. M. M. Gilbert, W. B. Roth, and R. Wiebe. Philippine Agr. Engin. Jour. (In press)

13. Volatility of Alcohol Motor Fuels. R. Wiebe, C. B. Kretschmer, and A. P. McCloud. Unpublished. (Manuscript copies available)

General Review Articles Dealing with Production,
Use, and Economics of Alcohol

14. War Alcohol Obtained from Wheat through Coordinated Research. U. S. Dept. Agr. Res. Achievement Sheet 93(C). July 1948.
15. Industrial Alcohol. P. B. Jacobs. U. S. Dept. Agr. Misc. Pub. 695. February 1950.
16. Alcohol from Agricultural Sources as a Potential Motor Fuel. G. E. Hilbert. U. S. Dept. Agr. AIC-233 (Rev.). February 1950.

Production of Alcohol

17. Grain Alcohol Fermentations. Submerged Mold Amylase as a Saccharifying Agent. E. H. LeMense, V. E. Sohns, J. Corman, R. H. Blom, J. M. VanLanen, and A. F. Langlykke. Indus. and Engin. Chem. 41(1): 100-103. January 1949.
18. The Use of Fungal Amylase in the Industrial Production of Alcohol and Alcohol Products. R. W. Jackson, R. H. Blom, and H. M. Tsuchiya. Report on Recent Advances in the Fermentation Industries, published by the Royal Institute of Chemistry (Scotland). pp. 93-107. July 1950.
19. Methods and Costs of Producing Alcohol from Grain by the Fungal Amylase Process on a Commercial Scale. U. S. Dept. Agr. Tech. Bull. 1024. August 1950.
20. Utilization of Fungal Amylase for Alcohol Production. J. Corman and H. M. Tsuchiya. Cereal Chem. 28(4): 280-288. July 1951.
21. Mold Cuts Production Costs for Grain Alcohol. U. S. Dept. Agr. Res. Achievement Sheet 146(C). July 1951.
22. Plant Scale Evaluation of a Fungal Amylase Process for Grain Alcohol. A. M. Hanson, T. A. Bailey, R. C. Malzahn, and J. Corman. Jour. Agr. and Food Chem. 3(10): 866-872. October 1955.

Physical Properties of Alcohol in Connection with
Its Use as a Motor Fuel

23. Solubility of Oxygen and Nitrogen in Organic Solvents, from -25° to 50° C. C. B. Kretschmer, J. Nowakowska, and R. Wiebe. Indus. and Engin. Chem. 38(5): 506-509. May 1946.
24. Densities and Liquid-Vapor Equilibria of the System Ethanol-Isooctane (2,2,4-Trimethylpentane) between 0 and 50° . C. B. Kretschmer, J. Nowakowska, and R. Wiebe. Jour. Amer. Chem. Soc. 70(5): 1785-1790. May 1948.
25. Liquid-Vapor Equilibrium of Ethanol-Toluene Solutions. C. B. Kretschmer and R. Wiebe. Jour. Amer. Chem. Soc. 71(5): 1793-1797. May 1949.
26. Liquid-Vapor Equilibrium of Ethanol-Methylcyclohexane Solutions. C. B. Kretschmer and R. Wiebe. Jour. Amer. Chem. Soc. 71(9): 3176-3179. September 1949.
27. The Solubility of Propane and the Butanes in Ethanol. C. B. Kretschmer and R. Wiebe. Jour. Amer. Chem. Soc. 73(8): 3778-3781. August 1951.
28. The Thermal Expansion of Water and 1-Propanol. C. B. Kretschmer. Jour. Phys. and Colloid Chem. 55(8): 1351-1355. November 1951.
29. Solubility of Gaseous Paraffins in Methanol and Isopropyl Alcohol. C. B. Kretschmer and R. Wiebe. Jour. Amer. Chem. Soc. 74(5): 1276-1277. March 5, 1952.
30. Pressure-Volume-Temperature Relationships of Alcohol Vapors. C. B. Kretschmer and R. Wiebe. Jour. Amer. Chem. Soc. 76(9): 2579-2583. May 5, 1954.
31. Thermodynamics of Alcohol-Hydrocarbon Mixtures. C. B. Kretschmer and R. Wiebe. Jour. Chem. Phys. 22(10): 1697-1701. October 1954.
32. Ethyl Alcohol-Water with 2,2,4-Trimethylpentane and with 1-Octene at 0° and 25° C. J. Nowakowska, C. B. Kretschmer, and R. Wiebe. Chem. and Engin. Data Series 1(1): 42-45. 1956.

Producer Gas from Agricultural Residues

- 33 Thermodynamics of Producer Gas Combustion. Application to Internal Combustion Engines. A. P. Oleson and R. Wiebe. Indus. and Engin. Chem. 37(7): 653-660. July 1945.

34. Bibliography on Construction, Design, Economics, Performance, and Theory of Portable and Small Stationary Gas Producers. J. Nowakowska and R. Wiebe. U. S. Dept. Agr. AIC-103. October 15, 1945.
35. Gasification of Agricultural Residues. J. C. Porter and R. Wiebe. U. S. Dept. Agr. AIC-174. March 1948.

Alcohol-Water Injection

36. Boosting Engine Performance with Alcohol-Water Injection. J. C. Porter, W. B. Roth, and R. Wiebe. Automotive Indus. 98(8): 34-37, 60. May 1, 1948.
37. Alcohol-Water Injection for Spark-Ignition Engines. R. Wiebe and J. C. Porter. U. S. Dept. Agr. AIC-240. July 1949.
38. Alcohol-Water Injection for High Compression Tractor and Automobile Engines. J. C. Porter, M. M. Gilbert, H. A. Lykins, and R. Wiebe. Agr. Engin. 31(2): 71-75. February 1950.
39. Dual Carburetion with Alcohol-Water Mixtures and Alcohol Blends (La Double Carburation par les Mélanges d'Alcool et d'Eau Utilisés comme Anti-Détonants d'Appoint ou par l'Emploi d'Essences Alcoolisées). R. Wiebe. Indus. Agr. et Aliment. 69(3): 203-208. March 1952. (English translation available)
40. Alcohol as an Antiknock Agent in Automotive Engines. J. C. Porter and R. Wiebe. Indus. and Engin. Chem. 44(5): 1098-1104. May 1952.
41. Alcohol-Water Injection for Farm Tractors. J. D. Hummell and R. Wiebe. U. S. Dept. Agr. AIC-349. February 1953.
42. Practical Experiences with Alcohol-Water Injection in Trucks and Farm Tractors. R. Wiebe and J. D. Hummell. Agr. Engin. 35(5): 319-326. May 1954.
43. Principles and Practice of Alcohol-Water Injection (Die Alkohol/Wasser-Einspritzung in Ottomotoren). R. Wiebe. Erdöl und Kohle 7(10): 643-647. October 1954. (English translation available)
44. Effects of Rotation and Alcohol-Water Injection on Farm Tractor Valve Life. J. A. Weber. Presented at Society of Automotive Engineers Golden Anniversary Tractor Meeting, Milwaukee, Wisconsin. September 12-15, 1955. (Preprint available)

Use of Wheat in War Alcohol Program

45. The Production of Ethyl Alcohol from Wheat. Report of Conferences and Collaborative Work Undertaken by Industrial, University, and Federal Research Organizations for and with the Assistance of the War Production Board. Summarized by Northern Regional Research Laboratory. March 1944.

